Psych Nouns

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I. Introduction

Sentences containing "psychological predicates" have been of interest to linguists for many years because they seem to distribute semantic roles among surface grammatical relations in a special way. In the analysis of Postal (1971), psych predicates are distinguished by the fact that their surface subject bears the semantic role **theme**, while some other NP in the sentence bears the role of (animate) **experiencer** of the predicate. For Postal, the experiencer is the "logical subject" (examples from Postal):

(1) a. The meat tastes funny to me.
     b. Harry is amusing to me.
     c. That is frightening/confusing/exciting to me.

Postal accounts for the surface configuration of the theme and the experiencer NPs via a transformational reordering called "psych movement", actually two submovements: the deep or "logical" subject moves into the predicate and is marked with a preposition, while the deep object moves out of the predicate to subject position.[2]

Interest in such constructions has revived in the recent literature because of their ability to illuminate various subtheories of the grammar. For example, in current treatments such as those of Belletti and Rizzi (1986) and Stowell (1986), psych predicates may occur in sentences in which both thematic arguments are internal to the VP at D-structure, while subject position is empty and has no theta role at D-structure.[3] Either the experiencer or the theme may move to subject position, depending on the lexical properties of a particular psych verb. The examples in (2) are from Stowell:

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(2)a. **This book** pleases/amuses/bothers **Bill**.
     THEME   EXP

   b. **Bill** likes/enjoys/detests **this book**.
     EXP   THEME

   In this paper I describe the properties of psych predicates that are nominal rather than verbal. These "psych nouns" occur in Palauan, a Western Austronesian language; similar predicates are attested in other languages and language families. The Palauan psych predicates will be analyzed as containing two lexically selected arguments, experiencer and theme, and as having a non-thematic external subject position. The analysis will, then, advance the approach to psych predicates in terms of theta theory described above. In focussing on nominal predicates, the paper will also provide important empirical support for current refinements of X-bar theory that emphasize homogeneity of structure across categories (Chomsky 1986a). I also argue below that Spec-head agreement be generalized to all categories, including NP. Finally, the binding properties of these predicate nominals are addressed, and I argue that predicate NPs have binding properties distinct from those of argument NPs.

   A perhaps unexpected property of these psych nouns is the fact that they are not derived from verbs. In the conventional view, derived nouns (**destruction**, **reliance**, etc.) are distinguished from non-derived nouns (**house**, **book**, etc.). Derived nouns not only assign theta roles, but those roles are the same as for the corresponding verb and are presumably determined by the verbal root. Non-derived nouns, on the other hand, have no lexical relation to verbs, are not theta-markers, and rely on prepositions and inserted possessive markers (like **'s**) to assign theta roles (and Case) within their projection (see, e.g., Stowell 1981; Anderson 1983; Emonds 1986). Cross-linguistically, however, this distinction seems too strong, as it is well known that many languages allow considerable freedom in the category of theta-assigners. A secondary aspect of the paper, then, will be to illustrate a case of purely nominal theta-assigners.

2. The data

2.1 Subjects in Palauan

   It will be important in what follows to be able to recognize the surface subject in a Palauan clause. Palauan is a VOS language in which simplex clauses present the subject to the right of the predicate. The predicate carries a prefix agreeing in person and number with the surface subject:[4]

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(3) a. **ng**-beluak   a **Bliliou**
3s-land-1s   Peleliu
Peleliu is my island.

   b. **ng**-omekmad   a ududel a Tmerukl a **Latii**
3s-caus.pay   money-3s
Latii is paying her debt to Tmerukl.

   c. **te**-?illebedii a bilis a **rngalek**
3p-hit   dog   children
The kids hit the dog.

When the subject is pronominal, the verb carries subject agreement, but subject position is empty (it contains *pro* in these cases):

(4) a. aki-mililil
1px-PST-play
We were playing.

   b. ak-?illebedau e le   ke-killii   a kelek
1s-hit-2s   because 2s-ate-3s   food-1s
I hit you because you ate my food.

   c. te-kakull
3p-RECIP-respect
They respect each other.

Paradigm (5) displays the complete set of forms of subject agreement (indicative):

(5) **Subject agreement (Indicative)**:

	Sing.	**Pl.**	
		excl.	**incl.**
1	ak-	aki-	kede-
2	ke-	kom-	
3	ng-	te-	

When a subject is fronted, and locally A' binds its variable, the verb is bare of subject agreement:

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(6) a. a ?ad$_i$ el **mil?erar** tia el buk ___$_i$ (relativized)
     man Comp buy Dem L book
   the person who bought this book

 b. a ngalek$_i$ a **menga** er a lius ___$_i$ (topicalized)
    child eat P coconut
   The child is eating the coconut

 c. ng-te?a$_i$ a **dilu** er kau ___$_i$ el kmo ke-mo er a Belau? (Q)
    who said P you Comp 2s-go P Palau
   Who told you to go to Palau?

When a <u>non</u>-subject is the A' antecedent, the verb **does** carry subject agreement.[5]

Below I'll take the "subject" to be the NP that occurs after the predicate, that triggers a prefixed form of agreement on the verb, and that, as local A' binder, occurs with a verb form bare of subject agreement. These are secondary characteristics of [NP,IP] in Palauan.

2.2 **Nominal predicates**

There is a special class of predicates in Palauan that have the form of possessed nouns. The four members of this class appear to exhaust the modal predicates. The structures containing these NPs are extremely productive, and such productivity is not surprising in view of the predicates' modal nature.

The type of "possession" associated with these predicates corresponds to the traditional notion of 'obligatory' or 'inalienable' possession; the root is abstract, and never appears syntactically without a form of inflection for the possessor. They are listed in (7) in their third person singular form:

(7) a. **soal** (<sau-) 's/he wants, likes, loves, desires,...'
   b. **?etil** (<?oit-) 's/he dislikes, hates, doesn't want,...'
   c. **sebe?el** (root unknown) 's/he can, is able, may,...'
   d. **kirel** (root unknown) 's/he must, should, has to, is obliged,...'

The abstract roots of **soal** and **?etil** have no syntactic category. The roots of the other two are at this point unknown. I'll refer to this class by a single member, **soal**, just to simplify the discussion; so as I discuss the properties of **soal** I refer implicitly to all four predicates, unless otherwise noted.

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2.2.1 [+N] vs. [+V] morphology

It is important to establish that the inflection carried by the **soal** predicates is of the category N. Consider the forms in (8):

(8) **Possessed forms of ?ar 'price'**:

	Sing.	Pl. incl.	excl.
1	?er-ak	?er-ad	?er-(e)mam
2	?er-am		?er-(e)miu
3	?er-al		?er-rir

Possessor agreement paradigms like (8) are productive and regular features of Palauan noun morphology. One characteristic of these paradigms is the thematic vowel (here, the vowel before the final consonant in the singular). The thematic vowel of the conjugation of **?ar**, like that of **soal**, is **a**; **?etil**'s thematic vowel is **i**, while **sebe?el** and **kirel** take **e**. **Soal**'s conjugation is in (9):

(9) **Possessed forms of sau- 'like'**:

	Sing.	Pl. incl.	excl.
1	so-ak	so-ad	so-(a)mam
2	so-am		so-miu
3	so-al	so-(a)rir	

Comparison of (8) and (9) shows the same paradigm of forms.

Possessor agreement forms are clearly distinct from V-category affixes, such as the object agreement suffixes found on perfective verbs ((11) gives the complete paradigm):

(10)   a. ng-?illebed-ak   he hit me
        b. ng-?illebed-au   he hit you
        c. ng-?illebed-ii   he hit her

(11)   **Direct object agreement:**

	Sing.	Pl. incl.	excl.
1	-ak	-id	-emam
2	-au		-emiu
3	-ii		-(t)erir

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Subject agreement paradigms (in (5)) are also distinct; they attach to predicates of any category.

Though there is some morphological overlap between the nominal suffixes and the verbal object agreement suffixes (easily analyzable in diachronic terms), the paradigms are distinct. While (11) is invariant, the nominal paradigms vary by thematic vowel,[6] and in other ways.[7] Under usual assumptions, the affixed word is also [+N]. Not only does **soal** take only [+N] inflection, but it does not take any of the [+V] affixes (the verb marker, the perfective marker, or the imperfective marker) described in Georgopoulos 1985a.[8] In sum, nominal inflection can be unambiguously distinguished from verbal inflection, and there is no way to construe **soal** predicates as in any way derived from verbs.

2.3 The clause: the predicate

With these morphological details behind us, let us look now at some sentences containing **soal**:

(12) a. ng-soal   a buik a biang
        3s-like-3s   boy   beer
        The boy likes/wants beer.

     b. ng-soarir a rbuik a Willy
        3s-like-3p   boy
        The boys like Willy.

     c. ng-?etil   a biang
        3s-dislike-3s   beer
        He dislikes/doesn't want beer.

     d. ng-sebe?ek el   omesuub
        3s-can-1s   Comp study
        I am able to study.

     e. ng-kirem   el   omesuub
        3s-must-2s Comp study
        You have to study.

     f. ng-mle   soal   teblou el mlai
        3s-PST like-3s   two   L canoe
        He wanted two canoes.

It is clear that **soal** is the predicate in these examples (see section 2.1): it is in predicate position, and it bears the subject agreement prefix (**ng-** (3sg) here). There is, moreover, no other verb or verb-like constituent in the (matrix) clause. (12)f shows that **soal** can be

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marked with the past-tense auxiliary **mle**, another property of predicates. Finally, as shown in (13), topicalization of the subject is accompanied by **soal** forms bare of subject agreement:[9]

(13) a. a Okard$_i$ (a ?etil   aikei el bilis ___ $_i$)
               hate-3s those   L dog
      Okard doesn't like those dogs.

     b. a rme?ebuul$_i$ (a soarir   a rmengoit   a udoud ___ $_i$)
        pl-poor   like-3p   pl-contribute   money
       The poor people like the people who contribute money.

It can also be seen from the examples in (12) and (13) that **soal** occurs with two arguments, either two NPs (as in (12)a, b, c, and f) or NP and a clause (as in (12)d and e).[10] The possessor argument translates as the (logical) subject. Assuming for the moment that the sentences in (12) accurately reflect their D-structures, more literal glosses might be, for example, 'There/It is the boys' liking (of) beer' for (12)a, or 'There/It is the boys' liking (of) Willy' for (12)b. Such glosses translate the logical subject as a possessor internal to the predicate, and the surface subject as a pleonastic.[11] I'll continue to use more English-like glosses, but it should be kept in mind that the gloss provided is sometimes only an approximation to the Palauan structure.

The possessor may be lexical or null. In (12)a and b, it is lexical: **buik** 'the boy' in (12)a, and **rbuik** 'the boys' in (12)b. When an argument that triggers agreement is pronominal in Palauan, it is null. This we saw in (4) for subjects. It is true of possessors as well; in (12)c-f the possessor is pronominal, and therefore null.

Let us from here on refer to the possessor as the "experiencer", a semantic label less strongly associated with a particular structural position. Since the experiencer and the head agree in referential features, I'll assume, minimally, dependencies like those in (14):

(14) a.' [$_{NP}$ so- al$_i$ buik$_i$]
           like 3s   boy

     b.' [$_{NP}$ so-(a)rir$_i$ rbuik$_i$]
            like   3p   boys

     c.' [$_{NP}$ sebe?-ek$_i$ pro$_i$]
            can   1s (1s)

No such dependency involves the theme; compare (14) to (15), which attempts to coindex NP-internal agreement and the theme:

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(15) a. *ng-soarir   a rbuik a Willy
　　　3s-like-3p　　boys
　　　(Willy likes the boys)

　　 b. *ng-soal   a kukau / *ak-soal a kukau
　　　 3s-like-3s   taro　　　 1s-like-3s taro
　　　 (I like taro)　　　　　 (I like taro)

Thus the argument that triggers the agreement suffix on the head is always and only the experiencer. No NP-internal morphology is associated with the theme.

2.3 The clause: the external argument

Though the experiencer and the head of **soal** are coindexed, they are not necessarily adjacent at S-structure:

(16) a. te-soarir a Willy a rbuik
　　　 3p-like-3p　　　　 boys
　　　 The boys like Willy.

　　 b. te-soarir　kemam a rbuik
　　　 3p-like-3p us.x　　 boys
　　　 The boys like us.

These sentences and those in (12)a and b differ in the surface order in which the arguments of **soal** are presented. In (12)a and b, the experiencer is immediately adjacent to **soal**. In (16), the experiencer is not only clause-final, following the theme, but it triggers the subject agreement prefix (**te-** '3pl' in these two examples). In other words, Palauan grammar allows the experiencer of an NP predicate to be the subject of the clause. **rbuik** 'the boys' is clause-final in (16), and it triggers not only the experiencer suffix of **soal**, but also the subject prefix. In this case, we might gloss (16)a,b as 'The boys have a liking (of) Willy/us', translating the experiencer as the syntactic subject. Example (17) also has an experiencer subject; in this case, the subject is *pro*, and like the experiencer subject in (16), it triggers subject agreement:

(17)　ak-soak tir *pro*
　　　1s-like-1s them
　　　I like them

Interestingly, the predicate in (16) agrees twice with the same thematic argument, but each instance of agreement is triggered by a different grammatical function. Example (17) also has an experiencer subject; the *pro* subject also triggers two forms of (first singular) agreement. The theme has no association with agreement in these examples.

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If the experiencer is subject in (16) and (17), the null hypothesis would be that the NP at the right is the subject of (12)a and b. That is, our hypothesis entails that either the experiencer or the theme may be the subject of **soal** predicate NPs. The third person singular agreement form in (12)a,b is compatible with this idea, since the NP in question, 'beer' or 'Willy', would trigger such agreement. Evidence that the theme can in fact move to subject is found in sentences like (18) (alternative glosses translate the theme as syntactic subject):

(18) a. te-soal a Willy a rbuik
     3p-like-3s   boys
     Willy likes the boys.   (The boys are Willy's liking)

    b. te-soal a Willy tirkei
     3p-like-3s   them
     Willy likes them.   (They are Willy's liking)

    c. aki-soarir a rbuik *pro*
     1px-like-3p   boys
     The boys like us.   (We are the boys' liking)

In (18)a and b, 'Willy' is the experiencer, and **rbuik** 'boys' ((18)a) or **tirkei** 'them' ((18)b) is theme; it is the latter NP that takes subject position and triggers subject agreement, 3pl in both cases. In (18)c, the theme is pronominal; as we know, pronominal subjects trigger prefixed agreement but are null. The subject here triggers first person (excl) agreement. The point becomes clear in comparing (16)b and (18)c, which have approximately the same meaning. The theme in (16)b is **kemam** 'us(excl)', does not trigger any agreement, and is lexically overt. The same argument in (18)c triggers subject agreement and is lexically empty.[12] The syntactic relation of the theme 'us' to **soal** is therefore different in the two sentences; only in the latter case does it act like a subject.

In view of (16) through (18), we can conclude that either theme or experiencer may be the S-structure subject of the predicate NP. This conclusion is supported by the ambiguity of a sentence like (19), in which an argument of the predicate NP is clefted. We analyze the clefted constituent as being linked to subject position, since **soal** in this sentence is bare of subject agreement (cf. (6) and (13)). The clefted NP can be interpreted as *either* experiencer or theme:

(19)   ng-Ioseb [a kot el soal a Merii]
       3s Joseph first L like-3s
     a. It's Joseph who likes Merii best. (clefted subject is EXP)
     b. It's Joseph who Merii likes best. (clefted subject is THEME)

(Despite the English of (19)b, in this analysis the Palauan sentence has a derived theme subject.)

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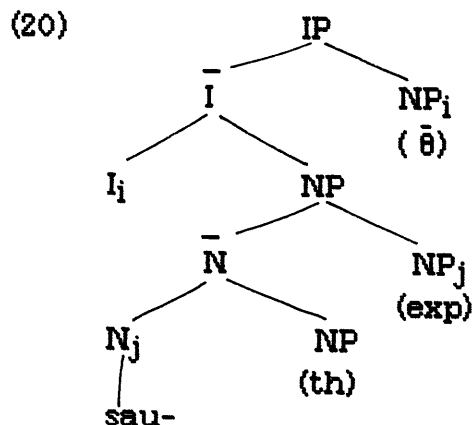We turn now to the theory of these constructions.

3. The analysis

3.1 Psych nouns: D-structure

Sentences containing **soal** appear to fit naturally into the
proposed analysis of psych verbs. In the first place, the **soal** class
are modal predicates, and modals have long been analyzed as
involving NP movement to (nonthematic) subject (e.g., Rizzi 1978). In
addition, the best analysis, like that for psych verbs, appears to be
one in which both thematic NPs fill D-structure slots in the predicate.

Less informally, then, I analyze **soal** as lexically selecting and
theta-marking two arguments, experiencer and theme. Both are
projected onto predicate-internal positions at D-structure. The subject
position of the clause is empty at D-structure, and is assigned no
theta role. The external subjects in the clauses in (16) through (18)
are therefore syntactically derived.

I propose the base structure in (20). Recall that Palauan is VOS;
it is also a uniformly head-initial language. The predicate NP is
therefore in the position commonly filled by VP. Other assumptions
about phrase structure encoded in (20) will be made explicit below.

(20)

$$
\begin{array}{c}
\text{IP} \\
\overline{\text{I}} \quad \text{NP}_i \\
(\bar{\theta}) \\
\text{I}_i \quad \text{NP} \\
\overline{\text{N}} \quad \text{NP}_j \\
(\text{exp}) \\
\text{N}_j \quad \text{NP} \\
| \quad (\text{th}) \\
\text{sau-}
\end{array}
$$

This structure instantiates the generalized X-bar schema of Chomsky
(1986b) in which all lexical projections and the projections of
I(nflection) and of C(omplementizer) may have the same internal
structure. In particular, both IP and NP contain a specifier position,
the NP node immediately dominated by the maximal projection. The
specifier is functionally the subject.

Chomsky assumes, in fact, a less generalized theory than this:
he proposes that specifiers are optional, except that the specifier of IP
is required by clause two of the Extended Projection Principle. The
specifier of NP may or may not be required by the Projection Prin-

ciple. That is, the position of subject of NP claimed in structure (20) may in fact not be required by any principle of grammar. However, I suggest that this is precisely what is signified by the traditional term "obligatorily/inalienably possessed noun": that the noun lexically selects the possessor argument, and that the Projection Principle ensures that the corresponding structural position is syntactically present. In other words, Spec(N) in (20) is obligatory.

3.2 Specifier-head agreement in NP

Chomsky (1986b) also elaborates a relation he calls SPEC-head agreement. This is described as a relation holding between I and the specifier of I, and between C and the specifier of C, which allows a sort of feature-sharing which plays a role in the determination of barriers. Via Spec-head agreement, the specifiers of IP and CP can benefit from theta government, even though these specifiers are not lexically marked. But if all categories have a specifier and a head, there is no a priori reason to limit Spec-head agreement to IP and CP. Stating this theory of agreement as generally as possible, without reference to category, we can assume that Spec-head agreement holds in all maximal projections, including NP. Then coindexing between I and Spec(I) and coindexing between N and Spec(N) are instantiations of exactly the same relation: agreement between a head and its specifier. I have indicated these two coindexing relations in structure (20).

We now consider subject agreement within IP and possessor agreement within NP as forms of (generalized) Spec-head agreement.[13] In neither case, of course, is overt agreement morphology necessary to the relation. A language may lack either or both overt subject agreement and possessor agreement. This relation may universally account for Case assignment in both categories, however; in particular, Spec-head agreement within NP is plausibly the mechanism responsible for assigning genitive Case to specifier position (however that inherent Case is *realized*). Note that on this view the experiencer necessarily is within NP; a lexical head does not agree with the specifier of some category external to its own projection.
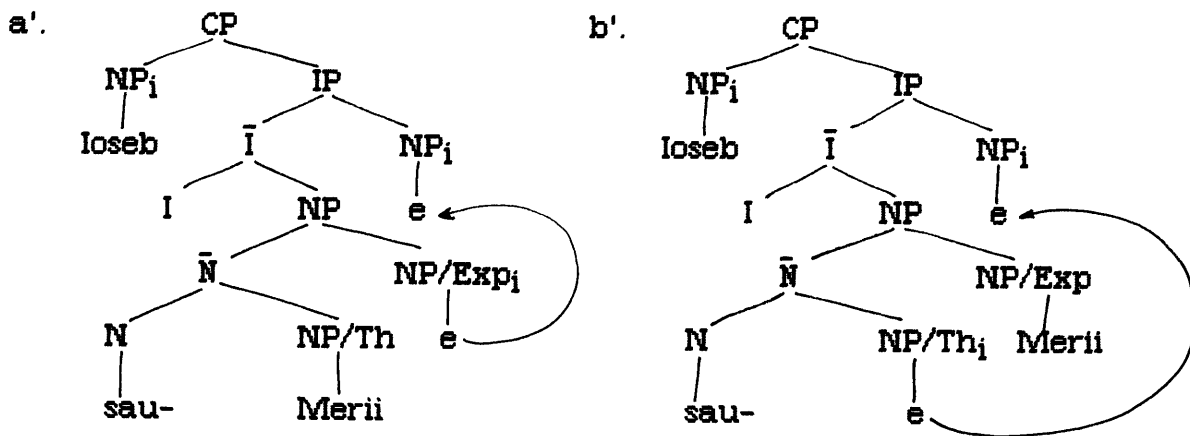
Let's see how far the proposed structure accounts for the facts of psych nouns.

3.3 The nonthematic subject of psych nouns

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First, (20) provides a non-thematic specifier of IP, which receives NPs moving out of the predicate. As we have seen, the same predicate occurs with either experiencer or theme subject, so subject position must be empty and nonthematic in D-structure, in order to be available as a landing site for one of the thematic NPs. Structure (20) allows for this; that is, it allows for both readings of (19):

(19)   ng-Ioseb [a kot   el soal a Merii]
       3s Joseph first L like-3s
       a. It's Joseph who likes Merii best. (clefted subject is EXP)
       b. It's Joseph who Merii likes best. (clefted subject is THEME)

a'.
```
              CP
         ┌────┴────┐
       NPᵢ          IP
        │      ┌────┴─────┐
      Ioseb    Ī          NPᵢ
             ┌─┴──┐        │
             I    NP       e ◄─┐
                ┌─┴──┐        │
                N̄     NP/Expᵢ  │
             ┌──┴──┐    │      │
             N     NP/Th e ────┘
             │      │
            sau-   Merii
```

b'.
```
              CP
         ┌────┴────┐
       NPᵢ          IP
        │      ┌────┴─────┐
      Ioseb    Ī          NPᵢ
             ┌─┴──┐        │
             I    NP       e ◄─┐
                ┌─┴──┐        │
                N̄     NP/Exp   │
             ┌──┴──┐   │       │
             N     NP/Thᵢ Merii │
             │      │          │
            sau-    e ─────────┘
```

Spec(I) therefore has no theta role in D-structure (20).

But there are also psych noun sentences in which the surface subject position contains *no* thematic argument. In contrast to the examples we have considered so far, **soal** also occurs in structures like those in (21):[14]

(21)a. ng-soarir   kemam a rbuik
        3s-like-3p   us.ex   boys
        The boys like us.

    b. kemedengei el kmo   ng-soam   tir
        2s-know   Comp   3s-like-2s them
        You know that you'll like them.

    c. ng-sebe?ek el   mong er a klukuk
        3s-can-1s Comp go   P   tomorrow
        I can go tomorrow.

In (21)a, the experiencer is **rbuik** 'the boys', and the theme is **ke-mam** 'us'. Neither triggers subject agreement -- that agreement form has the features third person singular. The facts of (21)b are similar: in the embedded clause the experiencer is 'you' (2sg), the

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theme is 'them' (3pl), and subject agreement is third person singular. In (21)c, agreement is not with the experiencer 'I', and there is no sign that the embedded clause is raised.[15] If neither thematic argument moves, the subject in (20) must be interpreted as a nonargument, that is, a pleonastic. Other things being equal, (20) is compatible with this case. A pleonastic subject in Palauan, as in many languages, triggers an impersonal form of agreement: third person singular.[16] (Thus (12)a-c are ambiguous: either the theme is subject, or the subject is expletive.)

3.4 The internal relations

As to *linear order*, in the nonmovement psych-noun sentences, the internal arguments have the linear order that (20) requires. This is clear, for example, in (21)a. Impersonal agreement when these arguments are in the reverse order is impossible:

(22) a.*ng-soarir   a rbuik   kemam
      3s-like-3p   boys   us.x
      (The boys like us.)

    b.*ng-soal a Willy a rbuik
      3s-like-3s   boys
      (Willy likes the boys.)

Structure (20) predicts that the order [PredN-Experiencer-Theme] only occurs if the theme is subject of IP; the theme cannot be the subject of NP. In (22), the theme is rightmost in the clause. In terms of (20), the theme in (22) has moved from its D-structure position, and should now be in the external subject position, whence it should trigger subject agreement. This is clearly not the case, however, so the theme is not IP subject in (22). But (20) allows no other way for the arguments to appear in this order.

Finally, the *hierarchical relation* of theme and experiencer shown in (20) is necessary in order to satisfy the binding theory. Assume the case in which experiencer and theme are coindexed. Then this predicate cannot have a "flat" structure allowing mutual c-command of the two arguments, without potential violation of both principles B and C. The binding facts within the Palauan predicate NP illustrate this. Pronominals and anaphors in Palauan are morphologically nondistinct, but a pronoun form in the predicate theme position is either anaphoric to the experiencer or is disjoint from the experiencer in reference:

(23) a. ng-soal   ngii a buik
      3s-like-3s   3s   boy
      The boy$_i$ likes him$_j$/her$_j$/self$_i$

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b. ng-soal   ngii *pro*
   3s-like-3s   3s
   S/he$_i$ likes him$_j$/her$_j$/self$_i$

The facts of (23) are predicted by the asymmetrical c-command relation between experiencer and theme in (20).

Another aspect of the hierarchical relations on (20) is seen in the explicit positioning of particular θ roles. This derives from the nature of the mapping from lexical structure to D-structure. At least since Jackendoff (1972) it has been argued that thematic relations correlate systematically with syntactic representations in D-structure. Jackendoff proposed a hierarchy of thematic relations which relates deep structure to 'functional structure', and on which experiencers are higher than themes. This hierarchy has been supported in many studies since Jackendoff formulated it. Belletti and Rizzi (1986) propose that the 'higher-than' thematic relation corresponds to asymmetric c-command on syntactic trees, and I will assume that this proposal accurately characterizes the projection of thematic roles to D-structures.

Other motivation of the hierarchical structure of (20) is more theory-internal. A combination of Kayne's theory (1981) of binary-branching trees with the constraints on word order in the psych-noun sentences (e.g., the impossibility of (22)) will impose the structure of the NP predicate in (20).

4   Psych movement?

So far we have seen that the psych predicate NP does not determine which of its arguments becomes the syntactic subject of IP. It cannot be the case that one of these internal arguments is lexically selected to undergo NP movement to subject. The theory of psych predicates must allow for this indeterminacy, while at the same time allowing for cases in which the subject *is* selected lexically (for example, the verbs in (2)). In Belletti and Rizzi's theory of psych verbs (1986), Williams' (e.g., 1984) device of underlining is used: in the lexical entry of the verb, any θ role can be singled out, or under-lined. The one underlined is projected as the external argument. (Underlining is subject to hierarchical constraints, such as those indicated above.) Certain verbs fail to underline any argument, in which case there is no predetermined D-structure subject. The latter possibility characterizes the Palauan case. That is, in these psych NPs it is possible to keep all arguments within the predicate, and the nature of the surface subject is determined syntactically.

What then is the trigger of movement to subject, when it does occur? In attempting to answer this question, I would like to pull

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together certain aspects of the analysis above. One is the assumption that Spec(N) is always a theta position, another is the demonstration that Spec(I) may be pleonastic, and the third is the demonstration that both internal arguments are free either to remain within the predicate or to move to Spec(I). Obviously, there is a troublesome optionality here. I will adopt (a version of) Kuroda's (1986) theory of Case-agreement in addressing this problem.

Kuroda argues that the category V is not defective, and that Spec(V) is always present. He also proposes that Spec(V) is the D-structure subject universally. Making extensions for predicate nominals and for psych predicates, assume that the subject of the clause always originates in the predicate, whether VP or NP. This is a conceptually satisfying approach, since all arguments of the head are now projected within the government domain of that head, and the problem of assigning a θ role to the external argument dissolves. Whether or not the NP moves out of the predicate to Spec(I) in a particular language depends upon parameters of Case theory. Essentially, Kuroda argues that Case-marking on Spec(I) is "forced" in some languages and not in others, depending on the absence or presence of alternative licensing devices. In Japanese, for example, the NP in Spec(V) is not forced to move, because it can be licensed in situ by a (lower-case) case-marking mechanism. In Palauan psych predicates, too, it seems that movement is not forced; there must be mechanisms that satisfy Case theory with respect to both NPs (in order to allow (21)) independently of movement to Spec(I). (Note that *pro* can appear in either internal position.) In English, in contrast, Spec(V) is not assigned Case by V and INFL must assign Case, so movement to Spec(I) is "forced".

This way of looking at the facts laid out in this paper point to a difficulty: either we conclude that Case assignment can be optional, or else that movement is optional. Neither alternative accords well with current theoretical assumptions. For example, in Palauan not only the NP in complement position can move, but also the NP in Spec(N). In the case of the experiencer, inherent Case is assigned at D-structure, based on theta role. The possibility of movement of the experiencer is therefore ruled out by the Uniformity Condition (Chomsky 1986a); yet we have sentences like those in (16). The theme, on the other hand, is normally assigned a structural Case. If structural Case assignment is optional in some position, we might conclude, following the Last Resort Principle, that whether or not movement takes place depends on whether or not Case is assigned in a particular position. That is, the theme moves only if Case is not assigned in the predicate, and it moves precisely in order to get Case. But the combined fact that either the theme or the experiencer may appear in Spec(I) argues that, in fact, it is movement and not Case assignment that is optional. In Kuroda's terms, movement is not

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"forced"; in the Palauan case this reduces to: movement is not obligatory. Facts like these suggest strongly that movement and Case-assignment are independent.
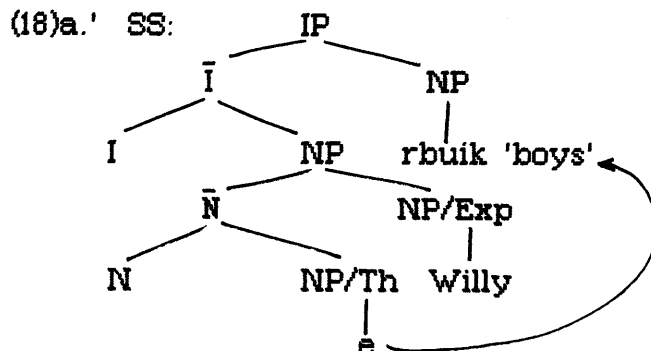
5 Psych nouns and binding theory

Chomsky (1986a) has introduced the notion "complete functional complex", or CFC. A complete functional complex is a maximal category within which all functional roles associated with the head, including the subject, are realized. It is suggested that NP and CP pattern together with respect to the binding theory because they are both complete functional complexes: they each have a subject. Currently the notions governing category and complete functional complex are used interchangeably (see, e.g., Chomsky 1986a, p. 169), in the sense that governing category is the least complete functional complex containing the relevant terms.

Psych NPs are also complete functional complexes: all the arguments selected by the head are realized within the NP -- including the subject, the experiencer. The psych NP should therefore be the governing category for an anaphor occurring within it. But look again at sentences like (18):

(18) a. te-soal a Willy a rbuik
 3p-like-3s   boys
 Willy likes the boys.   (The boys are Willy's liking)

 b. te-soal a Willy tirkei
 3p-like-3s   them
 Willy likes them.   (They are Willy's liking)

 c. aki-soarir a rbuik *pro*
 1px-like-3p   boys
 The boys like us.   (We are the boys' liking)

In these sentences the theme has been moved to external subject position across the NP subject, the experiencer:

(18)a.' SS:

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Such movement out of NP is barred by the Specified Subject Condition and by Principle A of the binding theory, if the predicate NP is in fact the governing category for the anaphor, the NP-trace of the theme. However, sentences in which the theme raises across the subject of the predicate NP are grammatical. It appears that this subject does not define an opaque domain.

This finding correlates with facts about predicate nominals in other languages, brought to my attention by Luigi Rizzi. The behavior of pronouns in predicate nominals in English contrasts with that of pronouns in simple verb complements:

(24) a. $John_i$ killed [his_i cook]$_{NP}$

b.   *$John_i$ is [his_i cook]$_{NP}$

(24) b suggests an i-within-i violation: if the predicate NP is coindexed with the subject, the indexing [$_{NP_i}$ his_i cook] results. However, examples like the following show that (24)b is a true principle B violation (Rizzi's examples, personal communication):

(25) a. $John_i$ is [$_{NP_i}$ his_i own cook]

b. $John_i$ is [$_{NP_i}$ his_i sister's cook]

These sentences are grammatical. The difference between (25) and (24)b is that in the former, **his** is subject of the predicate NP, and must be free in the whole IP, while in the latter, the governing category of **his** is the predicate NP. The contrast suggests that predicate nominals are not opaque domains.

Rizzi suggests that a predicate phrase is always transparent, and can never be a governing category; the definition of this notion should therefore specify that the relevant domain be nonpredicative:

(27)   A is the GC for B iff A is the minimal nonpredicative NP or S that contains the governor of B and in which the binding properties of B can be satisfied.

This definition differs from that of Chomsky (1986a) in two respects: it specifies a "nonpredicative domain", and it does not mention the notion "complete functional complex".

The facts of psych predicate NPs in Palauan support the idea that predicates should be excluded from the class of potential governing categories. At this point we could either dissociate the notion "governing category" from the notion "complete functional complex", stipulating that only those CFCs that are (potential) arguments can be potential GCs, or we could stipulate that a CFC can

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only be an argument. Let us assume that the latter approach is correct, as it leaves predicates free to enter into syntactic relation with the external argument, the specifier of IP. We thus return to the basic distinction between arguments and predicates, and to the basic notion of governing category as a category that is potentially an argument.

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Footnotes:

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2 So for Postal, sentences with experiencer subjects are not derived by psych movement. Compare current views, below.

3 Belletti and Rizzi distinguish different types of psych verbs in Italian, according to whether they have an external argument at D-structure; for example, the experiencer argument of **temere** 'fear' is a D-structure subject, while the experiencer of **preoccupare** 'worry' and **piacere** 'like' originates under VP.

4 Some abbreviations and orthographical notes:
a   marker of NPs (including nominalized IPs)
L   "linker" (between modifier and head)
p   plural
P   preposition
s   singular
x   exclusive

'?' represents a glottal stop. 'ng' is a velar nasal. Many orthographical 'e' represent /ə/ or [ə]. I follow the standard orthography except for the glottal stop, which is written 'ch'. For more detail on Palauan morphology, see Josephs 1975; Georgopoulos 1985b.

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[5] In both cases, subject and nonsubject extraction, the verb bears a morpheme which agrees with the variable; see Georgopoulos 1985a.

[6] For example, in the first person singular forms **kir-ek** 'I must' and **sebe?-ek** 'I can', the agreement form contains the thematic vowel **e**; in the verbal paradigm (11), the first person singular form **-ak**, with **a**, is constant with all verbs bearing object agreement.

[7] For example, there is no parallel in the nominal paradigms of the irregular or defective verbal paradigms I have documented elsewhere (Georgopoulos 1985b).

[8] Nor does it have any passive form, further suggesting a relation to unaccusative predicates.

[9] See note 4: the morpheme **a** marks NPs. Topicalization structures involve nominalization of the clause containing the variable, so that this clausal structure, too, is marked with **a**. That is, **a** does not mark the predicates **?etil** or **soarir** in these examples, but rather the entire nominalized clause.

[10] **sebe?el** 'can' and **kirel** 'must' take NP and S, in contrast to **soal** 'like' and **?etil** 'dislike', which have either two arguments of category NP, or one NP and one S-type argument. Following Grimshaw (1979) and Carter (1984), I attribute this selection to semantic properties of the predicates.

[11] Luigi Rizzi pointed out to me the need to use more literal glosses such as these. Note that these glosses include a phonological dummy subject as well as a copula, although Palauan has neither.

[12] Parallel to (17) is (i), whose S-structure is (i'):

i.   te-soak   i.' $[_{IP}$ te$_i$- $[_{NP}$so-ak$_j$ t$_i$ pro$_j$] pro$_i$]
       3p-like-1s   3p   like-1s   1s   3p
       I like them

[13] Note that if Spec-head agreement is possible across all categories, nothing particular needs to be said about Spec-head agreement in IP and CP. As for the theme, no coindexing relation analogous to Spec-head agreement is assumed to involve this position, so Case is not assigned to the theme on the basis of agreement.

[14] Cf also (i):
i.   ng-soak   tir
       3s-like-1s   them
       I like them.

[15] Other morphological facts, not described here, indicate that the subject is not clausal in this example.

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[16] Palauan thus supports Rizzi (1986)'s typology of *pro*. *pro* in Palauan can be a referential argument (we have seen examples of *pro* subjects, objects, and possessors above); a non-argument (the subject in psych noun sentences when no argument moves out of the predicate); or a quasi-argument, as in weather expressions:

i. ng-?ull *pro*	ii. ng-mle drumk *pro*
3s-rain	3s-PAST thunder
It's raining	It was thundering.